

ABSTRACT

An object of the present invention is to provide a method of discriminating singly-charged ions from multiply-charged ions by the use of an ion trap type mass spectrometer which is an inexpensive mass spectrometer.

This object is achieved by a mass-analyzing method using an ion trap type mass spectrometer which is equipped with a ring electrode and one pair of end cap electrodes and temporarily traps ions in a three-dimensional quadrupole field to mass-analyze a sample, comprising

a first step of applying a main high frequency voltage to said ring electrode to form a three-dimensional quadrupole field,

a second step of generating ions in said mass analyzing unit or injecting ions from the outside and trapping ions of a predetermined mass-to-charge ratio range in said mass analyzing unit,

a third step of applying a supplementary AC voltage having a plurality of frequency components between said end cap electrodes and scanning the frequency components of said supplementary AC voltage, and

a fourth step of scanning said main high frequency

voltage and ejecting ions from said mass analyzing unit and detecting thereof.

With this, chemical noises can be reduced dramatically.